



NEWS RELEASE

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For more information, contact:

Jim Morris, DESE, 573-751-3469

Wendy Baker, MDHE, 573-522-1312

Michael Waltman, DWD, 573-526-8267

David Lankford, MCC, 573-634-3511

Betty Brown, MERIC, 573-751-3635

Enrollments Are Up in High School Math and Science Courses, but Many Missouri Students Are Not Well-Prepared for College (says ACT)

Statewide test scores released by ACT in August suggest many Missouri students now entering college may have trouble keeping up in math and science.

According to college-readiness benchmarks, less than one-half (42%) of graduates who took the ACT this year are ready for college algebra and less than one-third (31%) are ready for college biology. (Indicators for English and social science are better at 73% and 54%, respectively.)

“All high school students need to focus more on math and science than in the past,” said Tom Quinn assistant commissioner of Career Education of the Department of Elementary and Secondary Education (DESE). “The ability to succeed in math and science can greatly impact students’ future career opportunities and earning power. There is a high demand for science- and math-intensive careers, such as computer programming, nursing and teaching. We want our students prepared for these opportunities.”

Enrollment Up, Improvements Expected

There is some evidence that Missouri schools and students are getting the message about the need for more rigorous math and science courses in high school. Statistics from DESE show that in the last three years, both the number of school districts offering advanced math and science courses and the number of students taking them have climbed. For example, the number of Missouri students taking Algebra 3 last year was up more than 40 percent from the 2004-05 school year. One reason is more rigorous graduation requirements, which have increased the units of math and science required for students graduating in 2010 and beyond.

Missouri students are also benefiting from the Missouri Virtual Instruction Program, or MoVIP. Now in its second year, this program allows students to take a wide range of classes online, so even students in districts with limited resources can take such classes as calculus and Web design, as well as honors and advanced placement (AP) courses.

Changes also are being made to ensure the courses cover the right material. This school year, Missouri public schools will implement new end-of-course assessments for Algebra 1, Biology and English 2 that will replace the current Missouri Assessment Program tests used in grades 10 and 11. Tests for more advanced courses will follow.

“We think these new assessments are going to have a lot of benefit as they identify the skills and competencies that kids need to be successful in each course and at the next level,” said Stan Johnson, assistant commissioner for DESE’s Division of School Improvement. “End-of-course exams also should create more rigor and consistency in classrooms across the state.”

Meanwhile, several initiatives are working to get kids fired up — not just signed up — for math and science through innovative, often hands-on projects and curricula. The national Project Lead the Way initiative, the St. Louis-based Science and Citizens Organized for Purpose and Exploration, or SCOPE, project, and the Kansas City-based Regional METS Leadership Coalition, led by Public Agenda, are just a few of the projects aimed at strengthening the state's and nation's workforce by getting kids interested — really interested — in math and science.

“Nothing less than the economic success of Missouri and the United States depends on our students achieving more in math and science,” said Rod Nunn, director of Education and Workforce Innovation, Office of Gov. Matt Blunt. “But we want students choosing these careers because they are excited about them. We owe it to our students to show them how rewarding careers in math and science can be.”

Several Thousand Reasons to Care

New research from the Missouri Economic Research and Information Center, or MERIC, highlights how great the opportunities in math and science are.

“First of all, the research shows that a large percentage, 21.5 percent, of all Missouri jobs require higher levels of math, and this percentage is expected to grow in the next few years,” said Marty Romitti, director of MERIC. “The average wage for these ‘math jobs’ is \$68,000, compared to \$37,000 for all careers. Jobs requiring advanced math and science range from the usual suspects of engineers and computer specialists to marketing managers, pilots and interior designers.”

Romitti adds that although the percentage of science careers is much smaller (only about 4 percent of Missouri jobs currently require advanced science), the average pay is even higher at \$76,000.

“We think that’s an incentive that could gain the attention of some parents and students,” Romitti said.

Other people might be more inclined to push for improvements in math and science education if they saw projections of workforce shortages, some severe, for math and science careers, including engineering, education, computer sciences and health care, Romitti said.

Lack of interest in these careers is not the only cause for concern; there is also a lack of preparedness among students who are interested. For example, only 34 percent of students interested in education — our future teachers — are prepared for college math, and only 24 percent of them are prepared for college science. The numbers are even worse among those interested in health care, of whom only 23 percent are ready for college math and only 16 percent are ready for college science.

“I can’t stress how important it is for students interested in any of the high-paying clinical health care professions to enter college with a solid math and science foundation,” said Michael Dunaway, senior vice president of the Missouri Hospital Association. “Without that foundation, students struggle or often drop out.”

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Fact sheet and more information are available at
http://dese.mo.gov/divcareered/MC_newsroom_math-science_082508.htm

The Missouri Connections Public Outreach Partnership workgroup represents a collaboration of state agencies concerned with education and workforce development who are helping inform and build awareness among the public, particularly students and potential students, of targeted careers, educational and industry trends, and workforce development priorities. Workgroup members represent the Department of Elementary and Secondary Education; Department of Higher Education; Department of Economic Development; Division of Workforce Development and Missouri Economic Research & Information Center; Missouri Center for Career Education; and Missouri Chamber of Commerce and Industry. Freelance writer is Anita Neal Harrison.